

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 07 OCT 2005

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Applicant's or agent's file reference 53389-190/DPC	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/CA2004/000440	International filing date (day/month/year) 24.03.2004	Priority date (day/month/year) 25.03.2003	
International Patent Classification (IPC) or national classification and IPC H01M10/50			
Applicant DUPONT CANADA INC. ET AL.			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 5 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).			
4. This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>			
Date of submission of the demand 22.10.2004		Date of completion of this report 07.10.2005	
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016 </div> </div>		Authorized Officer Standaert, F Telephone No. +31 70 340-	



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/CA2004/000440

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-16 as originally filed

Claims, Numbers

1-26 as originally filed

Drawings, Sheets

1/7-7/7 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/CA2004/000440

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-26
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-26
Industrial applicability (IA)	Yes: Claims	1-26
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following document:

D1: US 2003/000640 A1 (MERCURI ROBERT ANGELO) 2 January 2003

2. LACK OF INVENTIVE STEP

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-26 does not involve an inventive step in the sense of Article 33(3) PCT.

- 2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

A process for sealing a first bipolar plate of an electrochemical cell with an adjacent plate (paragraph [0077]), wherein the first bipolar plate comprises at least one mating region for mating with a complementary region on the adjacent plate, wherein the adjacent plate is a second coolant plate or a bipolar plate of the electrochemical cell (Figure 4), and the first bipolar plate and the adjacent plate each comprise a polymer and conductive filler (paragraphs [0078 and [0079]], said process comprises the step of welding said mating region to said complementary region to create a seal formed by the polymer at the mating region and the complementary region (see again paragraphs [0078 and [0079]).

The subject-matter of claim 1 differs from this known cell component in that the first plate is a coolant plate. It is well known to the skilled person that bipolar plates in SPEFC may contain cooling channels. This feature is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill.

The subject-matter of **claim 1** is therefore not inventive.

- 2.2 The same considerations as made in the above paragraph regarding claim 1 are also valid for independent claims 21 and 22, since these claims are based on the same basic principle as claim 1 in terms of an electrochemical cell component and an electrochemical cell respectively. The subject-matter of **claims 21 and 22** is does therefore not involve an inventive step.
- 2.3 Furthermore, dependent **claims 2-11** do not contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step for the reason that resistance welding and vibration welding are straightforward examples of hot bonding techniques, from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill.
- 2.4 Furthermore, dependent **claims 12-20 and 23-26** do not contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step for the reason that the subject-matter of said claims is either directly derivable from the disclosure of document D1 (for claim 12: see paragraph [0067]; for claims 15, 16, 18 and 20: see Figure 4 and paragraphs [0036], [0078]) or represents simple design details which are generally known to the person skilled in the field of fuel cells.